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#2

0420

OIPE

219/1

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/766,348

DATE: 02/02/2001
TIME: 11:29:58

Input Set : A:\CI2011.app
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3 <110> APPLICANT: Qiu, Dewen
4 Wei, Zhong-Min
5 Beer, Steven V.
7 <120> TITLE OF INVENTION: HYPERSENSITIVE RESPONSE INDUCED RESISTANCE IN PLANTS BY
8 SEED TREATMENT
10 <130> FILE REFERENCE: 19603/2986
C--> 12 <140> CURRENT APPLICATION NUMBER: US/09/766,348
C--> 13 <141> CURRENT FILING DATE: 2001-01-19
15 <150> PRIOR APPLICATION NUMBER: 08/984,207
16 <151> PRIOR FILING DATE: 1997-12-03
18 <150> PRIOR APPLICATION NUMBER: 60/033,230
19 <151> PRIOR FILING DATE: 1996-12-05
21 <160> NUMBER OF SEQ ID NOS: 10
23 <170> SOFTWARE: PatentIn Ver. 2.1
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26 <211> LENGTH: 338
27 <212> TYPE: PRT
28 <213> ORGANISM: Erwinia chrysanthemi
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37 Leu Gly Ser Ser Val Asp Lys Leu Ser Ser Thr Ile Asp Lys Leu Thr
38 35 40 45
40 Ser Ala Leu Thr Ser Met Met Phe Gly Gly Ala Leu Ala Gln Gly Leu
41 50 55 60
43 Gly Ala Ser Ser Lys Gly Leu Gly Met Ser Asn Gln Leu Gly Gln Ser
44 65 70 75 80
46 Phe Gly Asn Gly Ala Gln Gly Ala Ser Asn Leu Leu Ser Val Pro Lys
47 85 90 95
49 Ser Gly Gly Asp Ala Leu Ser Lys Met Phe Asp Lys Ala Leu Asp Asp
50 100 105 110
52 Leu Leu Gly His Asp Thr Val Thr Lys Leu Thr Asn Gln Ser Asn Gln
53 115 120 125
55 Leu Ala Asn Ser Met Leu Asn Ala Ser Gln Met Thr Gln Gly Asn Met
56 130 135 140
58 Asn Ala Phe Gly Ser Gly Val Asn Asn Ala Leu Ser Ser Ile Leu Gly
59 145 150 155 160
61 Asn Gly Leu Gly Gln Ser Met Ser Gly Phe Ser Gln Pro Ser Leu Gly
62 165 170 175
64 Ala Gly Gly Leu Gln Gly Leu Ser Gly Ala Gly Ala Phe Asn Gln Leu
65 180 185 190
67 Gly Asn Ala Ile Gly Met Gly Val Gly Gln Asn Ala Ala Leu Ser Ala
68 195 200 205
70 Leu Ser Asn Val Ser Thr His Val Asp Gly Asn Asn Arg His Phe Val
71 210 215 220

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RAW SEQUENCE LISTING DATE: 02/02/2001
 PATENT APPLICATION: US/09/766,348 TIME: 11:29:58

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77                      245                      250                      255
79 Ser Ser Pro Lys Thr Asp Asp Lys Ser Trp Ala Lys Ala Leu Ser Lys
80                      260                      265                      270
82 Pro Asp Asp Asp Gly Met Thr Gly Ala Ser Met Asp Lys Phe Arg Gln
83                      275                      280                      285
85 Ala Met Gly Met Ile Lys Ser Ala Val Ala Gly Asp Thr Gly Asn Thr
86                      290                      295                      300
88 Asn Leu Asn Leu Arg Gly Ala Gly Gly Ala Ser Leu Gly Ile Asp Ala
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106 gatctgggat ttcagtttgg ggacaccggg cgtgaactca tgatgcagat tcagccgggg 180
107 cagcaatata ccggcatgtt gcgcacgctg ctgcctcgtc gttatcagca ggcggcagag 240
108 tgcgatggct gccatctgtg cctgaacgyc agcgatgtat tgatcctctg gtggccgctg 300
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110 acgttgccgt cgtatcccat agcaccgacg gcgcgtccgc agacagggaa cggacgcgcc 420
111 cgatcattaa gataaaggcg gcttttttta ttgcaaaacg gtaacggtga ggaaccgttt 480
112 caccgtcggc gtcactcagt aacaagtata catcatgatg cctacatcgg gatcggcgtg 540
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RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/766,348

DATE: 02/02/2001
 TIME: 11:29:58

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135 cagatggaga cagctctgcg ataaatctgt gccgtaacgt gtttctatcc gcccctttag 1920
136 cagatagatt gcggtttcgt aatcaacatg gtaatgcggt tccgcctgtg cgcgcggcgg 1980
137 gatcaccaca atattcatag aaagctgtct tgcacctacc gtatcgcggg agataccgac 2040
138 aaaatagggc agtttttgcg tggatatcgt ggggtgttcc ggcctgacaa tcttgagttg 2100
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152 20 25 30
154 Asn Ala Gly Leu Gly Gly Asn Ser Ala Leu Gly Leu Gly Gly Gly Asn
155 35 40 45
157 Gln Asn Asp Thr Val Asn Gln Leu Ala Gly Leu Leu Thr Gly Met Met
158 50 55 60
160 Met Met Met Ser Met Met Gly Gly Gly Gly Leu Met Gly Gly Gly Leu
161 65 70 75 80
163 Gly Gly Gly Leu Gly Asn Gly Leu Gly Gly Ser Gly Gly Leu Gly Glu
164 85 90 95
166 Gly Leu Ser Asn Ala Leu Asn Asp Met Leu Gly Gly Ser Leu Asn Thr
167 100 105 110
169 Leu Gly Ser Lys Gly Gly Asn Asn Thr Thr Ser Thr Thr Asn Ser Pro
170 115 120 125
172 Leu Asp Gln Ala Leu Gly Ile Asn Ser Thr Ser Gln Asn Asp Asp Ser
173 130 135 140
175 Thr Ser Gly Thr Asp Ser Thr Ser Asp Ser Ser Asp Pro Met Gln Gln
176 145 150 155 160
178 Leu Leu Lys Met Phe Ser Glu Ile Met Gln Ser Leu Phe Gly Asp Gly
179 165 170 175
181 Gln Asp Gly Thr Gln Gly Ser Ser Ser Gly Gly Lys Gln Pro Thr Glu
182 180 185 190
184 Gly Glu Gln Asn Ala Tyr Lys Lys Gly Val Thr Asp Ala Leu Ser Gly
185 195 200 205
187 Leu Met Gly Asn Gly Leu Ser Gln Leu Leu Gly Asn Gly Gly Leu Gly
188 210 215 220
190 Gly Gly Gln Gly Gly Asn Ala Gly Thr Gly Leu Asp Gly Ser Ser Leu
191 225 230 235 240
193 Gly Gly Lys Gly Leu Gln Asn Leu Ser Gly Pro Val Asp Tyr Gln Gln
194 245 250 255
196 Leu Gly Asn Ala Val Gly Thr Gly Ile Gly Met Lys Ala Gly Ile Gln
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199 Ala Leu Asn Asp Ile Gly Thr His Arg His Ser Ser Thr Arg Ser Phe
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 PATENT APPLICATION: US/09/766,348 TIME: 11:29:58

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211 Lys Pro Asp Asp Asp Gly Met Thr Pro Ala Ser Met Glu Gln Phe Asn
212      340      345      350
214 Lys Ala Lys Gly Met Ile Lys Arg Pro Met Ala Gly Asp Thr Gly Asn
215      355      360      365
217 Gly Asn Leu Gln Ala Arg Gly Ala Gly Gly Ser Ser Leu Gly Ile Asp
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220 Ala Met Met Ala Gly Asp Ala Ile Asn Asn Met Ala Leu Gly Lys Leu
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227 <210> SEQ ID NO: 4
228 <211> LENGTH: 1288
229 <212> TYPE: DNA
230 <213> ORGANISM: Erwinia amylovora
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235 atcggcggtg cggggcgaaa taacgggttg ctgggtacca gtcgccagaa tgcctgggtg 180
236 ggtggcaatt ctgcactggg gctgggcggc ggtaatacaa atgataccgt caatcagctg 240
237 gctggcttac tcaccggcat gatgatgat atgagcatga tgggcggtg tgggctgatg 300
238 ggcggtggtc taggcggtg cttaggtaat ggcttgggtg gctcaggtg cctgggcgaa 360
239 ggaactgtcg acgcgtgaa cgatatgtta ggcggttcgc tgaacacgct gggctcgaaa 420
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W--> 259 000
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264 <212> TYPE: DNA
265 <213> ORGANISM: Pseudomonas syringae
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RAW SEQUENCE LISTING

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270 gtgaagctgg ccgaggaaact gatgcgcaat ggtcaactcg acgacagctc gccattggga 180
271 aaactgtttg ccaagtcgat ggcgcagat ggcgaagcgg gcggcggtat tgaagatgtc 240
272 atcgctgcyg tggacaagct gatccatgaa aagctcggtg acaacttcgg cgcgtctgcy 300
273 gacagcgctt cgggtaccgg acagcaggac ctgatgactc aggtgctcaa tggcctggcc 360
274 aagtcgatgc tcgatgatct tctgaccaag caggatggcg ggcacaagctt ctccgaagac 420
275 gatattgcga tctgaacaa gatcgccag ttcattggat acaatcccg acagtttccc 480
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277 gaaacggtcg cgttcggttc ggcactcgac atcattggcc agcaactggg taatcagcag 600
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283 ggcctggagc caacgctcaa ggtgccggg caaacaggca ccgacgtgca gtcgagcgtc 960
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298 20 25 30
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303 Ala Ala Leu Val Gln Lys Ala Ala Gln Ser Ala Gly Gly Asn Thr Gly
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312 Ala Asn Lys Thr Gly Asn Val Asp Asp Ala Asn Asn Gln Asp Pro Met
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315 Gln Ala Leu Met Gln Leu Leu Glu Asp Leu Val Lys Leu Leu Lys Ala
316 115 120 125
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VERIFICATION SUMMARY
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L:13 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:258 M:283 W: Missing Blank Line separator, <400> field identifier
L:259 M:300 W: (50) Intentionally skipped Sequence, : Sequence Id (5) SEQUENCE: